

AMENDMENTS TO THE CLAIMS

1-35 **(Cancelled)**

36. **(Currently Amended)** A method for detecting the presence of mastitis or a mastitis inducing pathogen in a milk sample of a mammal species, comprising:

providing a milk sample from a mammal species;

conducting an assay by exposing the milk sample to at least two antibodies, wherein each of the at least two antibodies is specific to a corresponding antigen from an indicator, wherein the indicator is selected from the group consisting of: one or more distinct pathogens of the mammal species and a somatic cell of the mammal species, and wherein the assay comprises determination of presence or absence of antibody reaction with the at least two indicators in the sample; and

relating presence of the antibody reaction in the assay to mastitis in the mammal species or a mastitis-inducing pathogen in the milk sample.

37. **(Previously Presented)** The method of Claim 36, wherein the assay is completed in less than 24 hours.

38. **(Previously Presented)** The method of Claim 36, wherein the assay is completed in less than 30 minutes.

39. **(Previously Presented)** The method of Claim 36, wherein presence of antibody reaction for at least one indicator in the sample is indicative of mastitis.

40. **(Previously Presented)** The method of Claim 36, wherein presence of antibody reaction for all of the indicators in the sample is indicative of mastitis.

41. **(Previously Presented)** The method of Claim 36, wherein the milk sample exists in at least two phases before the assay, and wherein at least one phase is used in the assay.

42. **(Previously Presented)** The method of Claim 36, wherein the milk sample is diluted before the assay.

43. **(Previously Presented)** The method of Claim 36, wherein the milk sample is subdivided before the assay.

44. **(Previously Presented)** The method of Claim 36, wherein the assay comprises a plurality of separate tests on the sample.

45. **(Previously Presented)** The method of Claim 36, wherein the cream is removed from the top of the milk before exposing.

46. **(Previously Presented)** The method of Claim 36, wherein the milk sample is treated to remove at least about 50% of the fat and/or the casein.

47. **(Previously Presented)** The method of Claim 46 wherein the treatment comprises adding a detergent to remove the fat globules and precipitating the casein with acid.

48. **(Previously Presented)** The method of Claim 36, wherein the somatic cell is a granulocyte.

49. **(Previously Presented)** The method of Claim 48, wherein the granulocyte is a neutrophil.

50. **(Previously Presented)** The method of Claim 36, wherein the pathogen is selected from the group consisting of a bacterium, a virus, and a fungus.

51. **(Previously Presented)** The method of Claim 50 wherein the pathogen is a bacterium selected from the group consisting of: *Streptococcus spp.*, *Enterococcus spp.*, *Staphylococcus spp.*, *Micrococcus spp.*, *Escherichia coli*, *Klebsiella* spp. Enterobacteria, *Serratia spp.*, *Pseudomonas spp.*, *Proteus spp.*, *Pasteurella spp.*, *Corynebacterium bovis*, *Arcanobacterium pyogenes*, *Mycobacterium spp.*, *Bacillus spp.*, and *Mycoplasma spp.*

52. **(Previously Presented)** The method of Claim 50 wherein the fungus is a yeast or a mold selected from the group consisting of: *Nocardia spp.* and *Prototheca*.

53. **(Previously Presented)** The method of Claim 50 wherein the pathogen is selected from the group consisting of: *Streptococcus agalactiae*, *Streptococcus dysgalactiae*, and *Streptococcus uberis*.

54. **(Previously Presented)** The method of Claim 50 wherein the pathogen is *Staphylococcus aureus*

55. **(Previously Presented)** The method of Claim 50 wherein the pathogen is a coagulase-negative *Staphylococcus*.

56. **(Previously Presented)** The method of Claim 51 wherein the mycoplasma is selected from the group consisting of *Mycoplasma bovis*, *Mycoplasma californicum*, and *Mycoplasma bovigenitaliae*.

57. **(Previously Presented)** The method of Claim 36, wherein the assay comprises determination of presence or absence of antibody reaction with at least 3 indicators in the sample.

58. **(Previously Presented)** The method of Claim 36, wherein the assay comprises determination of presence or absence of antibody reaction with at least 7 indicators in the sample.

59. **(Previously Presented)** The method of Claim 36, wherein the assay comprises determination of presence or absence of antibody reaction with at least 10 indicators in the sample.

60. **(Previously Presented)** The method of Claim 57 wherein the at least 3 indicators are selected from the group consisting of *Streptococcus agalactiae*, *Staphylococcus aureus*, *Mycoplasma bovis*, *Streptococcus uberis* and a gram-negative species.

61. **(Previously Presented)** The method of Claim 58 wherein the at least 7 indicators are *Streptococcus agalactiae*, *Staphylococcus aureus*, *Mycoplasma bovis*, *Escherichia coli*, coagulase-negative Staphylococci, *Mycoplasma californicum*, *Mycoplasma bovigenitaliae*, and a gram-negative species.

62. **(Previously Presented)** The method of Claim 36 wherein the pathogens are selected from the group consisting of: *Staphylococcus aureus*, non-hemolytic *Staphylococci*, *Mycoplasma capricolu*, *Mycoplasma mycoides* subspecies *mycoides*, *Mycoplasma putrefaciens*, *Mycoplasma agalactiae*, *Mycoplasma arginini*, *Mycoplasma conjunctivae*, *Mycoplasma ovipnuemoniae*, and *Mycoplasma* strain F38.

63. **(Previously Presented)** The method of Claim 36 further comprising a lateral flow test format.

64. **(Previously Presented)** The method of Claim 36, further comprising: immobilizing the antibodies on at least one test membrane.

65. **(Previously Presented)** The method of Claim 64, further comprising use of a mobile antibody, wherein the mobile antibody is not bound to the membrane, and wherein the mobile antibody binds to an indicator that is bound to an immobilized antibody.

66. **(Previously Presented)** The method of Claim 65, wherein the mobile antibody moves within or along the membrane.

67. **(Previously Presented)** The method of Claim 65, wherein the mobile antibody is conjugated to a marker.

68. **(Previously Presented)** The method of Claim 67, wherein the marker is a color-producing agent.

69. **(Previously Presented)** The method of Claim 68, wherein the color-producing agent is colloidal gold or a micro-sphere.

70. **(Previously Presented)** The method of Claim 64, wherein the antibodies are immobilized on two or more separate test membranes.

71. **(Previously Presented)** The method of Claim 70, wherein each separate test membrane comprises an antibody specific to one indicator.

72. **(Previously Presented)** The method of Claim 70, wherein the two or more test membranes are arranged longitudinally side by side.

73. **(Previously Presented)** The method of Claim 70, wherein the assay comprises concurrent visualization of test results.

74. **(Previously Presented)** The method of Claim 36, wherein the antibodies are polyclonal, monoclonal, or parts thereof.

75. **(Previously Presented)** The method of Claim 36, wherein the mammal species is a cow, a sheep or a goat.

76. **(Previously Presented)** The method of Claim 36, wherein the sample is from an individual animal.

77. **(Previously Presented)** The method of Claim 76, wherein the sample is from a distinct quarter of an udder of the animal.

78. **(Previously Presented)** The method of Claim 36, wherein the sample is from a plurality of individual animals of the mammal species.

79. **(Withdrawn)** A kit for the detection of a plurality of indicators in milk, comprising:

at least two antibodies, wherein each of the at least two antibodies is specific to a corresponding antigen from an indicator, wherein the indicator is selected from the group consisting of: one or more distinct pathogens of a mammal species and a somatic cell of the mammal species; and

a means for visualizing binding of at least one antibody to its corresponding antigen.

80. **(Withdrawn)** The kit of Claim 79, further comprising a container which allows the milk to be collected.

81. **(Withdrawn)** The kit of Claim 79, further comprising a cleaning product for the removal of organisms from the outside of a milk-producing organ.

82. **(Withdrawn)** The kit of Claim 79, wherein the somatic cell is a granulocyte.

83. **(Withdrawn)** The kit of Claim 82 wherein the granulocyte is a neutrophil.